

SPECIAL FEATURES

International consensus on standardized office blood pressure measurement - A call to action by 13 organisations!

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In the last decade the classic “gold standard” method for measuring blood pressure (BP) in the office or clinic, which has been considered for almost a century as the cornerstone for hypertension diagnosis and management has been seriously questioned, mainly due to its poor reproducibility and the white coat and masked hypertension phenomena.¹ As a result, all the recent guidelines by ISH, ACC/AHA, ESC/ESH, UK NICE, Canada, Japan, Australia and elsewhere have put considerable emphasis on out-of-office BP measurement methods (24-hour ambulatory or home) for the diagnosis and management of hypertension.²⁻⁶ In fact, the decisions for making the diagnosis of hypertension, initiating antihypertensive drug therapy, and titrating therapy for reaching optimal BP control have now been moved out of the office (at home or in ambulatory conditions). Thus, it might be a surprise to many colleagues that in 2023 an international consensus paper exclusively devoted to the old method - office/clinic BP measurement - has been developed and published.⁷

Why should we care about office BP measurement in the 21st century? Well, the reality is that today and in the years to come most people with high BP around the world (in both low and high income countries) will be diagnosed and managed using only measurements of BP in the office. In addition, it took us too long time to accept that the methodology for measuring BP in the office varies, depending on the device, conditions, number of measurements, etc. These different office measurement methods give different BP levels and lead to different conclusions and treatment decisions (**Table 1**).⁸ Thus, it is important to reach global consensus on a ‘standardized’ office BP

Table 1. Different methods for office blood pressure measurement and their impact on the blood pressure level.⁸

	Setting	Method	Blood pressure
1.	Clinical practice	Manual auscultatory	▲ ▲
2.	Clinical practice	Automated attended	▲
3.	Clinical practice	Automated unattended	▼
4.	Research setting	Auscultatory or automated	▼

Different Methodology ► Different BP threshold ► Different diagnosis

measurement aiming at improving its accuracy and thereby the reliability of treatment decisions.

Numerous guideline publications have provided detailed recommendations for office/clinic BP measurement which essentially are identical (**Figure 1**).¹⁻⁷ Yet regrettably the scientific community has failed to implement the optimal methodology into clinical practice. The 2023 international consensus statement led by KDIGO presents 4 steps for standardized office BP measurement (**Figure 2**):⁷ (i) setting, device, and cuffs, (ii) observer training, (iii) measurement conditions, (iv) procedure and interpretation. Although the manual auscultatory BP measurement is still regarded as the reference method for assessing the accuracy of any novel BP measurement technology, automated electronic (oscillometric) arm-cuff BP devices are currently recommended for office/clinic BP as they are devoid of the common issues with human observer biases and errors.^{2,5,7} However, most

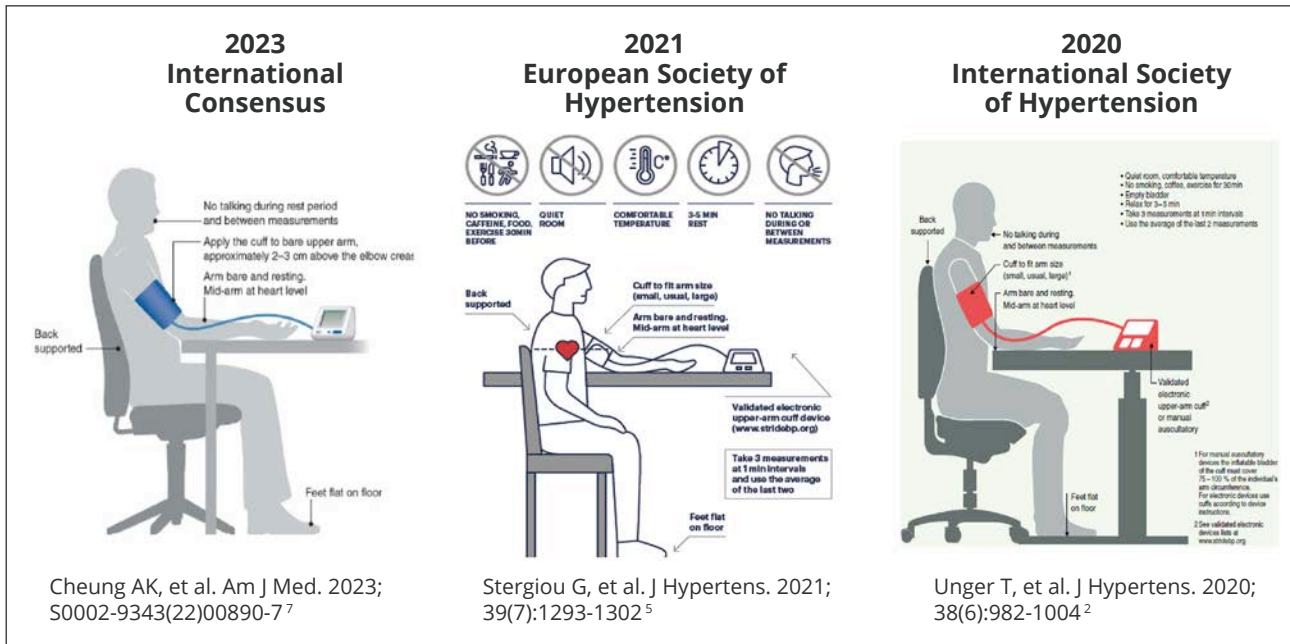


Figure 1. Recommendations for office/clinic blood pressure measurement.^{2,5,7}

of the electronic devices currently available on the market have not been properly validated for accuracy. The international consensus statement provides a list of scientific organizations providing online lists of validated BP monitors (**Table 2**).

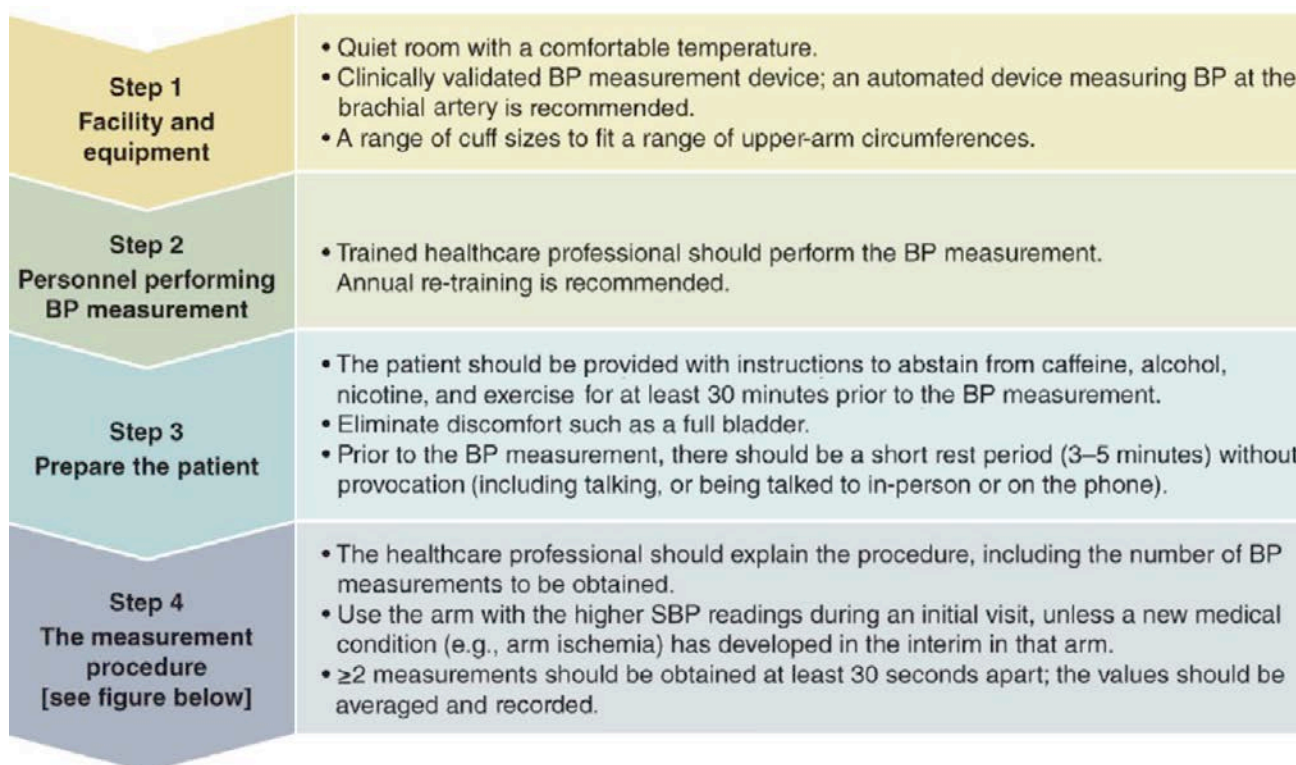
It is amazing how much time and effort has been put for so long time to achieve optimal BP measurement.^{2-7,9,10} This is understandable as BP is an unstable variable with dynamic characteristics of variability and its measurement remains the foundation for diagnosing and treating

hypertension. Cheung et al⁷ and KDIGO should be praised for an extraordinary achievement, as they managed to bring to the consensus table 25 international experts from around the world representing 13 of the most prestigious scientific organizations in hypertension globally. ISH actively contributed to the development of this statement with four of its officers – Alta Schutte, Maciej Tomaszewski, Bryan Williams, and George Stergiou. We hope and should strive for this initiative to have a global impact in standardizing office blood pressure measurement – at last!

Table 2. Organizations providing online lists of validated blood pressure monitors.^{5,7}

Organization	Monitor lists (language)	Scientific association	Website
STRIDE BP	International (English, Chinese, Spanish)	European Society of Hypertension – International Society of Hypertension – World Hypertension League	www.stridebp.org
BIHS	UK, Ireland (English)	British and Irish Hypertension Society	www.bihsoc.org/bp-monitors
VDL	US (English)	American Medical Association	www.validatebp.org
Hypertension Canada	Canada (English)	Hypertension Canada	www.hypertension.ca/bpdevices
Deutsche Hochdruckliga	Germany (German)	German High Pressure League	www.hochdruckliga.de/betroffene/blutdruckmessgeraete-mitpruefsiegel
JSH	Japan (Japanese)	Japanese Society of Hypertension	www.jpnh.jp/com_ac_wg1.html

Figure 2. Steps for implementing standardized office/clinic blood pressure measurement.⁷



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